Ripped from the ROUNDUP

Ripped straight from the pages of old Space News Roundups, here's what happened at JSC on this date:

1970

Changes to be made in the Apollo spacecraft and procedures before the Apollo 14 mission will require postponing the launch to no earlier than Jan. 31, 1971.

The changes and new date were announced June 30 by Dr. Thomas O. Paine, Administrator of the National Aeronautics and Space Administration, following a review of recommendations of the Apollo 13 Review Board, an evaluation of the Board's report by the NASA Aerospace Safety Advisory Panel, and recommendations by NASA's Office of Manned Space Flight.

The Review Board had reported that a short circuit ignited electrical insulation in spacecraft oxygen tank No. 2, causing failure of the tank, subsequent loss of electrical power and abort of the lunar-landing mission 200,000 miles from Earth on April 13.

1978

The Space Shuttle's main propulsion system was static fired successfully June 22 in a test lasting almost 40 seconds and reaching 90 percent of the rated power of the engines.

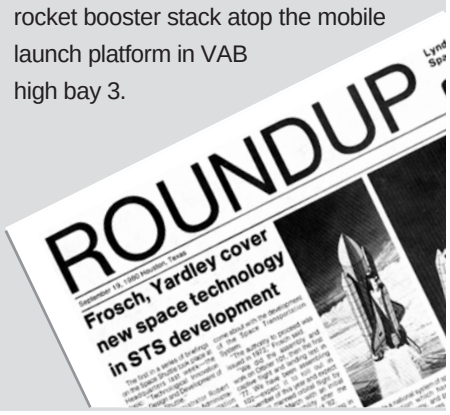
This was the third test of the propulsion system which features a cluster of three main engines installed in an Orbiter aft fuselage section. Liquid hydrogen and liquid oxygen propellants are fed to the engines from a flight-type External Tank

1989

The first space shuttle to orbit the Earth – *Columbia* – was towed from its hangar in the Orbiter Processing Facility to the Vehicle Assembly Building early this week in preparation for its return to flight on the 30th shuttle mission.

With the roll out from the hangar shortly after midnight Monday, NASA reached a significant milestone: the first time since 1986 that NASA has had three operational space shuttles in the launch processing flow for upcoming missions.

By 4 p.m. Tuesday, the orbiter was mated to its external tank and solid rocket booster stack atop the mobile launch platform in VAB high bay 3.



Co-op students tour Stennis, view STS-96 launch

By Kylie Moritz

On May 25, fourteen co-op students set off an adventure of a lifetime. With a 16-hour drive ahead of them, they loaded up their luggage, synchronized their CB radios and departed from Rocket Park. Their goals were to stop in Mississippi for a tour of Stennis Space Center and arrive at Kennedy Space Center in time to watch STS-96 lift off.

Deputy Center Director Dr. Mark Craig and Larry Ellis, deputy director of the Propulsion Test Directorate, greeted the students as they arrived at Stennis on May 26. Together, they embarked on an exclusive four-hour tour of commercial remote sensing systems, the engine assembly building and engine testing facilities. The co-ops were amazed at the technology being used at Stennis and began to realize how much hard work is put into the space shuttle.

"I really enjoyed it because we got up close and personal with the Space Shuttle Main Engines at different stages of assembly. There were a lot of very knowledgeable people there to answer all of my questions. I learned a great deal about the heart of the machine that fuels our careers and the dreams of thousands of people," said Chip McCann, a mechanical engineering co-op from the University of Wisconsin.

Touring another NASA center was a unique learning experience for the co-ops. "It's really great to go to the other NASA centers and see what they do, and to get a better understanding of what they are about. It's an interesting feeling to still be at NASA, but at the same time you're still a tourist," explained Philip Strawser, a computer engineering co-op from Georgia Institute of Technology.

From Stennis, the co-ops resumed their journey to KSC. With a mere three hours left before the launch, they climbed the stairs of the fire escape at the Launch Control Center to wait for the launch. Munching on donuts and positioning their tripods, they watched the sunrise over the Atlantic Ocean.

Egbert Hood, an aerospace engineering co-op from the University of Texas, explained that his favorite part of the trip was "watching the shuttle sitting on the pad at 5 a.m., watching the sun rise, and then watching the Solid Rocket Boosters glow brighter than the purest gold."

"I think that every single employee of NASA should make an effort to go see at least one launch. Every day we work on our projects – big or small – and we can easily loose sight of the big picture. Seeing that shuttle rise through the clouds and feeling the wave of sound shake your body has got to be one of the most awe-inspiring moments of a person's life," added Strawser.

The launch was indeed an incredible sight. Afterward, the students went to the lobby of the LCC and ate beans and cornbread, which is a tradition at KSC after a launch. With full stomachs and sleepy heads, they found their hotel in Cocoa Beach, Florida, and slept the day away.

On the morning of May 28, the co-ops met Tim Potter, Payload Ground Operations contract manager representative at KSC, for an extraordinary day. The day included a six-hour tour of the Payload Processing Facility, the shuttle landing area, the Orbital Processing Facility, the Vehicle Assembly Building, and last, but certainly not least, Launch Pad 39B. The tour of KSC was definitely a highlight of the trip.

"Walking under *Atlantis* in the Orbiter Processing Facility was the best part. There's nothing quite like looking up and admiring our nation's magnificent spacecraft," said Edgar Medina, an aerospace engineering co-op from the University of Texas.

"I was so surprised to see the Space Shuttle *Atlantis* hiding there behind all that scaffolding," added Casey Kirchner, an aeronautical and astronautical engineering co-op from Purdue University.

Touring the facilities at Stennis and KSC and watching the shuttle launch brought things into perspective for the co-ops.

"I enjoyed seeing the 'big picture' of what it takes to make the shuttle fly," said Christopher Lamoreaux, a mechanical engineering co-op from Tufts University.

After an exhausting trip to the Cape, the co-ops returned to Houston on the afternoon of May 29. How did they keep occupied during the car ride home? Counting Waffle Houses, of course. In case you ever wondered, there are 64 Waffle Houses between Kennedy Space Center and Johnson Space Center. ■

Gee Whiz Facts that the co-ops learned

- The VAB is so large that clouds can form and rain inside the building.
- The fuel pump on the Space Shuttle Main Engine produces a flow rate that is capable of filling six Olympic-sized pools in less than 30 seconds.
- Half a million gallons of water are dumped on the launch pad within 30 seconds during launch.
- It takes the crawler 6 to 8 hours to travel from the Vehicle Assembly Building to the launch pad.
- Stennis technicians and test engineers have to wait several hours after a Space Shuttle Main Engine test firing because the cryogenics make everything in the test stand so cold, rather than the exhaust heating everything up.

Co-op students standing in front of Launch Pad 39B with Tim Potter, Payload Ground Operations contract manager representative at Kennedy Space Center, from left, front, are: Kylie Moritz, Angie Villar, Sarah Brehmer, Casey Kirchner, Christopher Lamoreaux, Potter, Edgar Medina, Ignacio Villarreal, Aaron Swank; back: Kristy Stokke, Egbert Hood, Chip McCann, Tim Graves, Philip Strawser, Jim Westlake.

Cozumel awaits winner of NASA Exchange-JSC promotional campaign

On July 7, 1999, the NASA Exchange-JSC will launch a new promotional campaign that is sure to capture your interest. It plans to offer a cruise for two to the majestic waters of Cozumel.

Participants will have the opportunity to register for the cruise with the purchase of a classic mission pin from any of the Exchange Stores located in Bldgs. 3 and 11, JSC cafeterias, and Gilruth Center. These vintage pins, featuring various shuttle mission designs, offer a nostalgic reminder of NASA's past and a glimpse into its future. The pins retail for $2.50 and make great gifts for those who wish to show off their NASA pride or for the avid NASA collector. Only the JSC Exchange can offer these classic memories along with the opportunity to make new memories of your own in Cozumel.

Classic mission pins are set to arrive on July 7. Visit the Exchange Stores and cafeterias in Bldgs. 3 and 11 and Gilruth Center for more details.

Eligibility: NASA civil servants, retirees, contractors, and their immediate family. Exchange employees, NASA Exchange Council members, EAA officers, and their immediate family are not eligible to participate.

Contest: Purchase a classic mission pin (retail price $2.50) for the chance to win a trip for two to Cozumel. Contest begins July 7, 1999, and ends August 13, 1999. Official drawing will be held August 18, 1999. See Exchange stores for details. ■